Sub D1

2. (Reiterated) The method of claim 1, wherein identifying the component comprises intensifying a signal from the fluorescent specific binding agent to provide an intensified image signal.

3. (Reiterated) The method of claim 2, wherein microdissecting comprises dissecting tissue components with a laser beam, and the method further comprises selectively filtering an image of the laser beam to reduce laser-induced distortion of the intensified image.

4. (Amended) The method of claim 1, wherein the fluorescent specific binding agent comprises an aqueous solution, and the biological molecule is RNA, DNA or a protein, which is lost in the presence of water.

b2

5. (Amended) The method of claim 4, wherein the biological molecule is RNA.

6. (Reiterated) The method of claim 1, wherein microdissecting comprises applying a capture member to the sample of tissue, and applying laser energy to the component of interest to adhere the component to the capture member.

7. (Amended) The method of claim 1, wherein the sufficient concentration of fluorescent specific binding agent is sufficient to avoid loss of more than about 5% of the biological molecule.

b3

8. (Amended) The method of claim 7, wherein the sufficient concentration of fluorescent specific binding agent is sufficient to avoid loss of more than about 10% of the biological molecule.

9. (Reiterated) The method of claim 1, wherein the fluorescent specific binding agent includes a fluorescent antibody, lectin, protein A, protein G and mixtures thereof.

Sub D1

10. (Amended) The method of claim 1, wherein the sufficient concentration of fluorescent specific binding agent is at least 0.02 mg/mL

11. (Amended) The method of claim 10 wherein the sufficient concentration of fluorescent specific binding agent is at least 0.1 mg/mL.

B4

12. (Amended) The method of claim 9, further comprising pre-mixing a primary antibody and a secondary antibody, at least one of which is fluorescent, prior to exposing the tissue to the fluorescent specific binding agent to reduce a time of exposure of the tissue to the fluorescent specific binding agent.

Please cancel claim 13.

14. (Amended) The method of claim 2, wherein the fluorescent specific binding agent is present in a sufficient concentration that, when the tissue is exposed to the fluorescent specific binding agent for less than about three minutes, the intensified image signal is detectable.

B5

15. (Amended) The method of claim 14, wherein the fluorescent specific binding agent is present in a sufficient concentration that, when the tissue is exposed to the fluorescent specific binding agent for not more than about one minute, the intensified image signal is detectable.

16. (Reiterated) The method of claim 3, wherein microdissecting comprises targeting tissue components with a target laser beam, and viewing the intensified image through an infrared filter that selectively minimizes image distortion caused by the laser beam, without eliminating the signal image.

Sub C1

17. (Amended) A method of performing tissue microdissection of a tissue specimen, comprising:

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exposing the tissue specimen to a fluorescent specific binding agent according to the method of claim 35, wherein the fluorescent specific binding agent is a fluorescently labeled

antibody, and wherein the fluorescently labeled antibody specifically binds to a component of interest in the tissue;

washing unbound antibody from the tissue;

intensifying an image of the tissue specimen which has been exposed to the fluorescently labeled antibody, to obtain an intensified fluorescent signal from the tissue;

applying a transfer member to the tissue;

directing a target laser beam to the component of interest in the tissue, to mark the component that is to be dissected from the tissue specimen, while viewing the target laser beam through an infrared filter that selectively filters infrared radiation but not the fluorescent signal, to minimize heat distortion of the intensified image, while still viewing the intensified signal; and

applying radiant laser energy to the component of interest to transfer the component to the transfer member.

18. (Amended) The method of claim 17, wherein exposing the tissue to a sufficient concentration of the fluorescently labeled antibody comprises exposing the tissue to a concentration of at least 0.04 mg/mL of the fluorescently labeled antibody.

19. (Amended) The method of claim 18, wherein exposing the tissue to a sufficient concentration of the fluorescently labeled antibody comprises exposing the tissue to a concentration of at least 0.10 mg/mL of the fluorescently labeled antibody

Please cancel claim 20.

21. (Amended) The method of claim 17, wherein exposing the tissue to the fluorescent specific binding agent comprises exposing the tissue to the fluorescent specific binding agent for less than about three minutes.

22. (Amended) The method of claim 21, wherein exposing the tissue to the fluorescent specific binding agent comprises exposing the tissue to the fluorescent specific binding agent for no more than about one minute.

Please cancel claim 23.

24. (Amended) A method for fluorescently staining a tissue section for microdissection, comprising:

fixing a tissue section with a non-crosslinking fixative;

rinsing the tissue section twice with an aqueous buffered solution for about 5 seconds per rinse;

incubating the fixed tissue section with a fluorescent specific binding agent according to the method of claim 35, wherein the fluorescent specific binding agent is in an aqueous solution;

rinsing the tissue section twice with an aqueous buffered solution for about 5 seconds per rinse;

dehydrating the tissue section; and

drying the tissue section.

25. (Reiterated) The method of claim 24, wherein the aqueous buffered solution is diethylpyrocarbonate-treated phosphate-buffered saline solution.

26. (Reiterated) The method of claim 24 wherein the fluorescent specific binding agent solution comprises a primary antibody covalently linked to a fluorescent molecule.

27. (Reiterated) The method of claim 24, wherein the fluorescent specific binding agent solution comprises a pre-mixed solution of primary antibody and fluorescently labeled secondary antibody.

28. (Reiterated) The method of claim 24, wherein the fluorescent specific binding agent solution comprises a premixed solution of a fluorescently labeled primary antibody and a fluorescently labeled secondary antibody.

29. (Reiterated) The method of claim 24, wherein the fluorescent specific binding agent solution comprises a solution of fluorescently labeled lectin.

30. (Reiterated) The method of claim 24, wherein the fluorescent specific binding agent solution comprises a mixture of primary antibody and fluorescently labeled protein A or G.

31. (Reiterated) The method of claim 30, wherein primary antibody is also fluorescently labeled.

32. (Reiterated) The method of claim 24, wherein the non-crosslinking fixative is selected from the group consisting of ethanol, acetone, methanol and mixtures thereof.

33. (Reiterated) The method of claim 24, wherein the fluorescent specific binding agent solution further comprises an enzyme inhibitor.

34. (Reiterated) The method of claim 33, wherein the enzyme inhibitor is chosen from the group consisting of RNase inhibitor, DNase inhibitors, protease inhibitors and mixtures thereof.

35. (Amended) A method for fluorescently labeling tissue that preserves a biological molecule, comprising:

contacting the tissue with a fluorescent specific binding agent of sufficient concentration to selectively label target cells against which the fluorescent specific binding agent is directed in less than about five minutes.

36. (Amended) The method of claim 35, wherein the fluorescent specific binding agent is of sufficient concentration to selectively label target cells against which the fluorescent specific binding agent is directed in less than about three minutes.

37. (Amended) The method of claim 36, wherein the fluorescent specific binding agent is of sufficient concentration to selectively label target cells against which the fluorescent specific binding agent is directed in not more than about one minute.